4.7 DESIGN CONVERSION PACKAGE

I. CONVERSION PLANNING (General)

A. Conversion falls into (normally) two (2) categories:

- Machine convertible data
- Manually retained data that must be converted to machine data

Of the two, the latter requires the greatest attention.

1. Machine convertible data is that data currently maintained and stored in a machine readable form - i.e., magnetic tape, disk, drum, cards, etc., - that can be converted to the new system by a computer program(s). It may require several programs to convert one file or even to capture one data field.

2. Manually retained data is that data currently maintained in a manual file - i.e., individual's folder, softfile, 3x5 card, etc. and is normally located with the user. The transfer of this data into a machine readable form requires a manual coding and/or keying operation. Several questions should be answered by the analyst and user, where manual data is involved. They are:

   - Is the data essential when the new system goes operational?

- Can this data be entered into the new system in phases over an extended period of time?
- Can this data be captured prior to conversion? and,
- If so, how will it be maintained?

B. Methods for Conversion can be outlined as:

- Parallel conversion: Old and new systems must operate side by side until the new system has successfully performed all functions in all cycles.
- Immediate Conversion: the old system is discontinued when the new system is installed.
- Gradual Conversion: the old system is replaced by the new system over an extended period of time with conversion being accomplished in phases limited by selected operating cycles, major processing functions (projects), types of data accepted, or organizations affected.
- Pilot Conversion: the new system is operated in a controlled environment until operational impacts are completely evaluated.
- Reverse Conversion: the new system must reconvert data for use in the old system. This is necessary where projects are installed in phases or where projects are not scheduled for the new system. The reverse conversion will be essential in the Human Resources Systems due to implementation of projects in phases. This "reverse conversion" will be

accomplished by computer programs, external to GIM. Figure 1 illustrates the plan for the Personnel Masters.

C. Conversion controls - In planning for the conversion the analyst must identify:

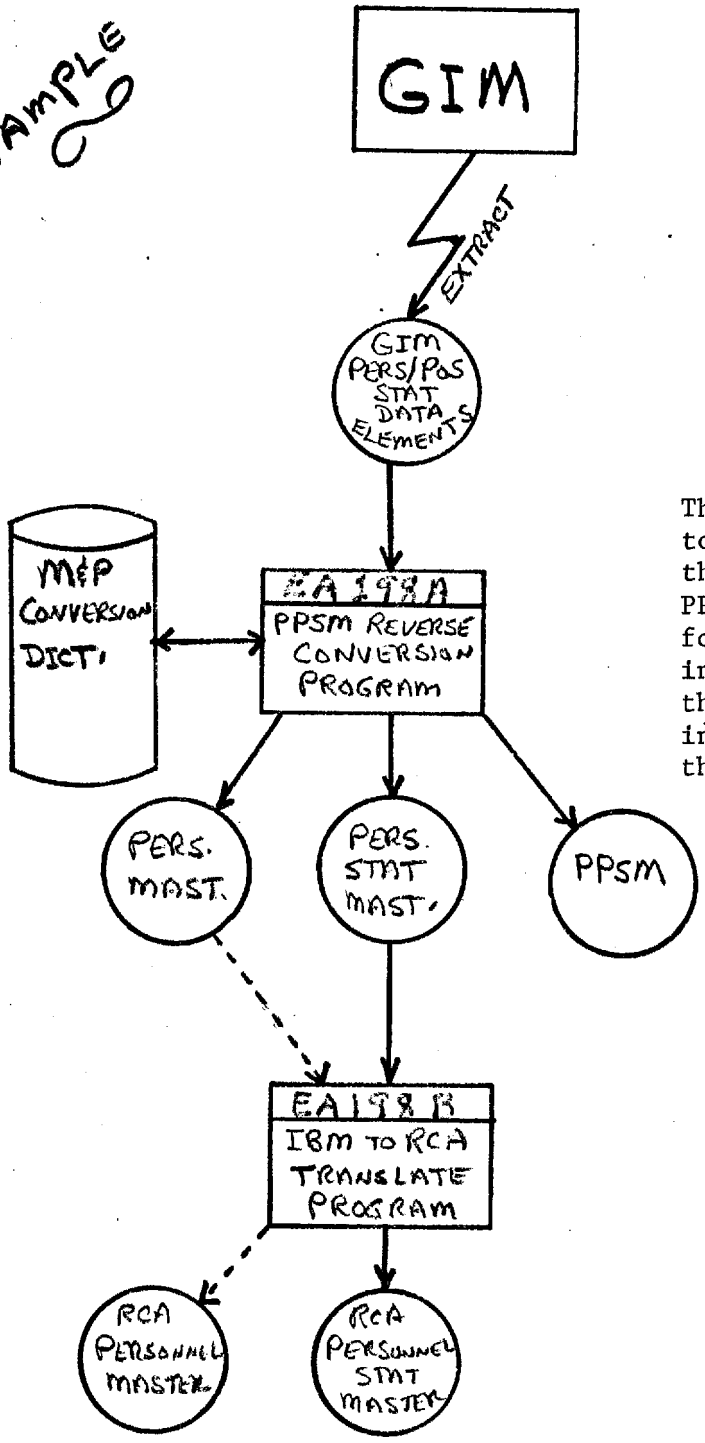
- Operation Checkpoints: points during system operation at which processing can be checked for accuracy and integrity of data.
- Accounting controls: data fields which individually or together can be used to validate the data handling, editing and selection, etc.
- Recovery Procedures: techniques to correct errors detected by controls.

D. The analyst must consider the following factors in scheduling conversion:

- Identification of conversion tasks:
  - list all files to be converted or generated
  - identify checkpoints, controls, etc.
  - specify key user personnel required
- Timing of conversion tasks:
  - assign priority
  - establish calendar
  - schedule personnel and equipment
- Formalization of the plan:
  - verification of workload
  - user review
  - data processing operations review

"REVERSE CONVERSION" PROGRAMS FOR PERSONNEL MASTER

SAMPLE



Sample

Using the EXTRACT command in GIM, select those data elements required to build a PERS/POS STAT Master.

This program will reconvert new codes to old codes, format data elements in the same order as they appear on today's PPSM, insert a < (less than character) for the RCA Start Message symbol (<), insert a > (greater than character) for the RCA End Message symbol (>), and insert a ¬ (not sign character) for the RCA ISS (•). Output tapes will be in fixed format, no labels.

This program will translate, character for character, a tape with IBM character configuration and produce a tape with RCA character configuration. The output tape will contain an EF at the beginning and an EF/ED at the end.

FIGURE 1

It is essential that the above factors are coordinated with the "Conversion Group". In some cases the analyst and "Conversion Group" member will be working as a team.

E. To assure proper conversion and successful operation of the system, the analyst should determine requirements for and coordinate the training of user personnel at clerical and management levels.

F. Preconversion Check - Is the organization ready for conversion?

1. Is the user ready to convert? Is there an approval cycle?
2. Are extra personnel available for handling conversion problems?
3. Have conversion programs been tested?
4. Have provisions been made to control changes during conversion?
5. How will inquiries be handled during conversion?
6. What fallback procedures are to be used if the conversion falters?
7. Who exercises control during conversion? How?
8. What is the final task in the conversion effort?
9. What will signal the end of the conversion effort? How?
10. Have user guides been developed?
11. Has the user been briefed?

II. CONVERSION SPECIFICATIONS

A. Conversion specifications for automated files.

1. To describe the old file(s) to be converted the following forms should be prepared:

   - Record Format Description - Form 2968
   - File Information Sheet - Form MP-11
   - IBM or RCA Record Layout - Input

   These forms, for master files, are located in the M&P Master Record Formats Manual and therefore can be duplicated.

2. To describe the new file/data, in a format acceptable to GIM, the following forms should be prepared:

   - Conversion Specifications — Form 3488
     (Refer to Tab K for preparation instructions)
   - File Information Sheet — Form MP-11
   - Record Layout - Output — IBM GX20-1702

   The Conversion Specifications - Form 3488 - is a general purpose form which will be used to identify all conversion requirements to any degree or level - e.g., a character, a data element or an entire file. It will contain detail instructions and specifications on how, when, and what to convert to GIM. This form, plus the three in Para. 1, will be used by the analyst to

identify all programming specifications for the Conversion Team. The remaining two forms, can be prepared by either the analyst or programmer.

NOTE: The above forms are included in TAB K.

B. Conversion Specifications for Manual Files/Data

1. It becomes very difficult to have specific conversion instructions where projects require manual data. This is due to

   - the numerous ways data is maintained at the source
   - the various methods that can be employed in capturing source data - e.g., code sheet, punch card, OCR, terminal, paper tape, key-to-tape, etc.
   - the different methods of converting, editing and maintaining data prior to entering it into the GIM data base.

   The analyst, in coordination with the Conversion Group, should investigate and plan the best method for his project.

2. The following is a list of documentation requirements and forms required for a manual conversion.

   - detail instructions as to the exact procedures the user must follow.

- instructions and guidance in the preparation of input forms, code sheets, etc.

  NOTE: Where appropriate the input form designed for the new system should be used in lieu of an additional form or a "bootleg" form.

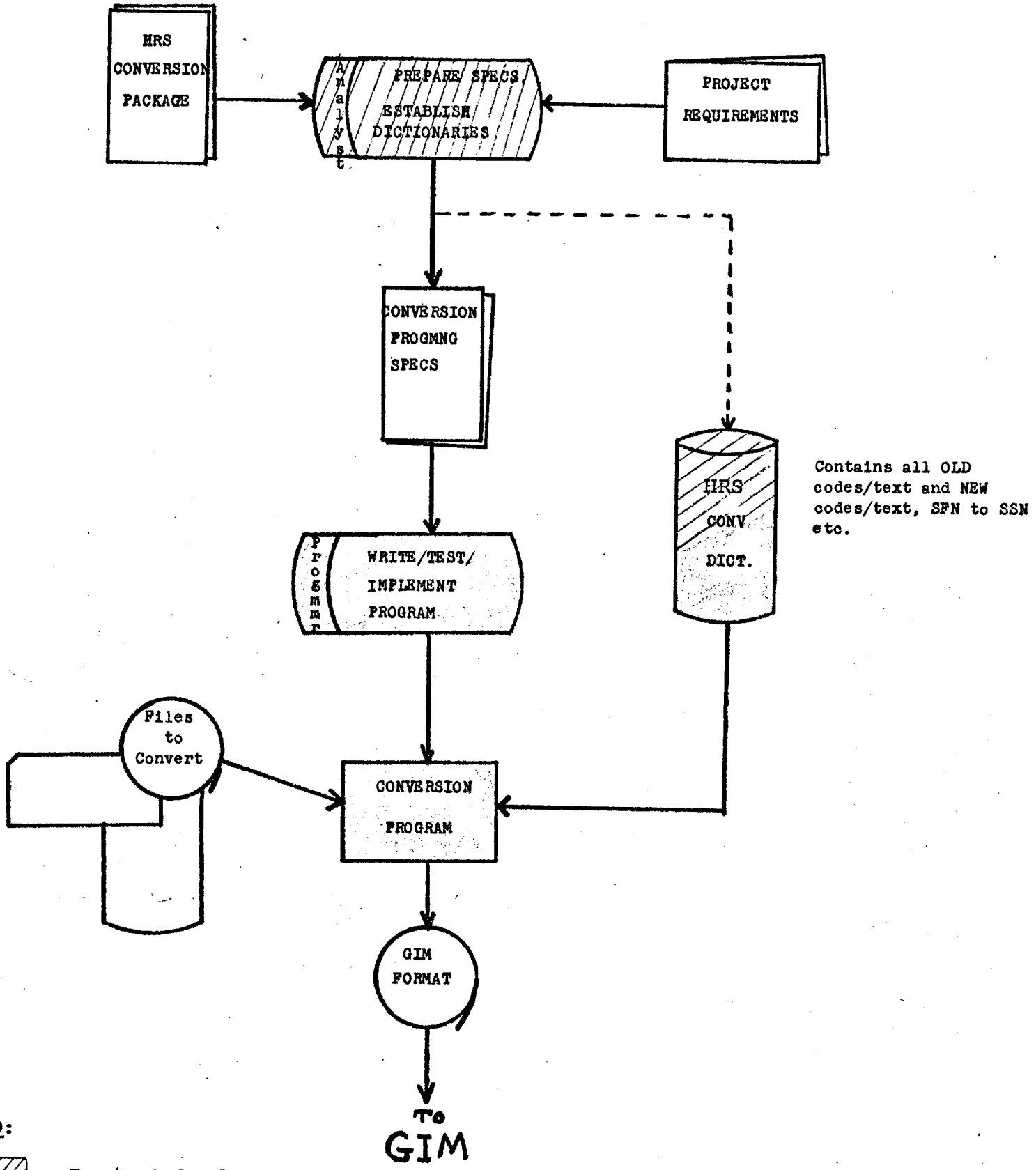
- keying instructions - keypunch, key tape, terminal, etc.
- Record Layout - Input — IBM GX 20-1702
- Record Format Description — Form 2968
- Conversion Specifications — Form 3488
- File Information Sheet — Form MP-11
- Record Layout - Output — IBM GX 20-1702
- Report Specifications — Form 3417

III. CONVERSION PLAN

A. A general conversion plan is shown in Figures 2 and 3 which illustrate graphically how conversion will be performed within the Human Resources Area. Figure 2 displays a typical plan for automated files and Figure 3 shows a method for manual files. It should be pointed out that there will be overlap and definitely coordination between the four groups involved (user, analyst, DIS, and conversion programming team), and that the plan is not as rigid as it may appear in the diagram.

B. The conversion of codes and text will be accomplished by the "HRS Conversion Dictionary". The present M&P Dictionary system will be used. The "HRS Conversion Dictionary" will contain old codes and the new code/text. Codes presently on the M&P Dictionary to be converted will be transfered to the HRS Conversion Dictionary. The analyst preparing the conversion specifications will submit code sheets (see Form MP-1 in Tab K) containing the new HRS code and the desired clear text. If a code/text file is needed for conversion that is not on the current Dictionary, it will be established by the analyst. The appropriate dictionaries (code files) will be converted to GIM format (as a data list in GIM) at the time the project is installed.

CONVERSION PLAN



LEGEND:

= Project Analyst & DIG

= Conversion Group

FIGURE 2

CONVERSION PLAN

MANUAL FILES